

What We Claim:

- 1) A flow distributor for a chromatography column comprising a flow distributor having a top face and a bottom face, an inlet extending through it and a bottom face across which is secured a bed support, the bottom face has one or more series of ribs extending radially outward from a center portion of the bottom face, a bed support is secured to the flow distributor adjacent its bottom face about its outer periphery, a distribution disk is arranged over the inlet and extending across from about 1 to about 30% of the flow distributor's bottom face area, ending just short of an inner edge of the one or more series of ribs closest to a center point of the inlet, the disk being mounted on two or more legs so as to be of substantially the same height as the ribs, and wherein the disk projects fluid flow from the inlet in a 360° radial distribution without any noticeable partitioning.
- 2) The flow distributor of claim 1 wherein the amount of surface area of the bottom face of the flow distributor that is used to secure the bed support is less than about 10%.
- 3) The flow distributor of claim 1 wherein the flow distributor allows a column to run velocities up to 1500 cm/hour while maintaining its integrity and a standard flow across the flow distributor and while having a low-pressure drop across the column.
- 4) The flow distributor of claim 1 wherein the ratio of active flow distributor surface area to the entire surface area of the column bed below it is at least 0.9, preferably from about 0.9 to about 0.95.
- 5) The flow distributor of claim 1 wherein the disk is from about 1% to about 4% of the bottom face's total surface area.
- 6) The flow distributor of claim 1 wherein the disk is from about 2% to about 3% of the bottom face's total surface area.
- 7) The flow distributor of claim 1 wherein the disk is from about 2.4% of the bottom face's total surface area.

8) The flow distributor of claim 1 wherein the one or more series of ribs have a leading edge closest to a center of the surface and the leading edge is spaced from the center of the surface by a distance about 19% that of the radius of the surface.

9) The flow distributor of claim 1 wherein the one or more series of ribs have a leading edge closest to a center of the surface and the leading edge is spaced from the center of the surface by a distance from about 10% to about 30% of the radius of the surface.

10) The flow distributor of claim 1 wherein the one or more series of ribs have a leading edge closest to a center of the surface and the leading edge is spaced from the center of the surface by a distance from about 16% to about 22% of the radius of the surface.